The Rivah Digest

A quarterly newsletter of the Rappahannock Area Health District

RAHD Rappahannock Area Health District
CARING FOR A HEALTHY COMMUNITY

ACCHHHOOOO!!!! Don't let the flu catch up with you!

November 2004

Flu seasons are unpredictable. Although epidemics of flu happen in most years, the beginning, severity and length of the epidemic can vary widely from year to year. As of mid-September, the influenza viruses detected in the US matched to this season's vaccine. This season's vaccine contains: [A/New Caledonia/20/99 (H1N1)-like] and two new viruses A/Fujian/411/2002 (H3N2)-like) and B/Shanghai/361/2002-like].

Due to the current vaccine shortage, high risk individuals should be targeted for inactivated influenza vaccination. If available, vaccination with live-attenuated-influenza vaccine (LAIV). The MedImmune product marketed as **FluMist** is an option for healthy persons aged 5-49 years. This group includes people who are caregivers of children less than 6 months of age and for healthcare workers involved in direct patient care (expect caring for severly immunosuppressed patients). If a health-care worker receives LAIV, that worker should refrain from contact with severely immunosuppressed patients for 7 days after vaccination. The 2003-2004 flu season was especially hard on children. Three non-fatal influenza-associated encephalopathies were reported in children ages 1, 3 and 14 years. Two of the children were from the Northwest Region of the state and one was from the Southwest. The Health Department reported one influenza-associated death in a one-year old from the Northwest Region. Nationwide, 142 influenza-associated deaths in children were reported to the CDC. **RAHD reminds all providers to report any encephalitis or death occurring in children as a result of the flu.**

High Risk:

- Children aged 6–23 months
- Adults aged 65 years and older
- Persons aged 2–64 yrs with underlying chronic medical conditions
- Pregnant during the influenza season.
- Residents of nursing homes and LTCF
- Children aged 6 mo–18 yrs on chronic aspirin therapy
- Health-care workers involved in direct patient care
- Out-of-home caregivers and household contacts of children under 6 months of age
- Health-care workers involved in direct patient care

Although not a substitute for vaccination, antivirals are critical adjuncts in the prevention and control of influenza. When administered within 2 days of illness, the duration of uncomplicated influenza can be reduced by 1-2 days. CDC encourages the use of amantadine or rimantadine for chemoprophylaxis and use of oseltamivir or zanamivir for treatment as supplies allow, in part to minimize the development of amantadine resistance among circulating influenza viruses.

Treatment

- Any person experiencing a potentially life-threatening influenza-related illness.
- Any person at high risk for serious complications of influenza and who is within the first 2 days of illness onset.

Chemoprophylaxis

- All persons who live or work in institutions caring for people at high risk of serious complications of influenza infection should be given antiviral medications in the event of an institutional outbreak.
- Persons at high risk of serious complications who have been vaccinated but have not had time to mount an immune response to the vaccine. In adults, chemoprophylaxis should occur for a period of 2 weeks after vaccination. In children aged <9 years, chemoprophylaxis should occur for 6 weeks after the first dose, or 2 weeks after the second dose, depending on whether the child is scheduled to receive one or two doses of vaccine.
- Persons with immunosuppressive conditions who are not expected to mount an adequate antibody response to influenza vaccine.

Please visit the CDC @ www.cdc.gov/flu/professionals/treatment/0405antiviralguide.htm

Antiviral Agent	Trade Name	Flu Type	Use	Age Restrictions
Amantadine	Symmetrel	A	Prophylaxis / Treatment	> = 1 year
Rimantadine	Flumadine	A	Prophylaxis / Treatment	Adults only for treatment > = 1 year for prophylaxis
Zanamivir	Relenza	A and B	Treatment only	> = 7 years
Oseltamivir	Tamiflu	A and B	Prophylaxis / Treatment	> = 1 year for treatment > = 13 years for prophylaxis

Health Departments

- *Rappahannock District 540-899-4797*
- *Caroline 804-633-5465*
- *King George 540-775-3111*
- *Fredericksburg 540-899-4142*
- *Spotsylvania 540-582-7155*
- *Stafford 540-659-3101*

After hours reporting:

- *Communicable Disease & Outbreak Reporting 540-850-1250*
- *Environmental Pager 540-899-8601*
- *Rabies Pager 540-372-2562*
- *New Toll-free number for public health and Bioterrorism events* ***866-531-3068***

Forensic Epidemiology Training

The Virginia Department of Health recently held *Forensic Epidemiology* training for public health law enforcement, fire/ems, hospital staff and the Rappahannock Medical Reserve Corps. The course was designed to enhance and strengthen the efficiency and effective coordinated response as all the entities prepare for biological threats or attacks. Speakers were from the Division of Consolidated Laboratory Services, the Office of the Chief Medical Examiner and Forensic Crime Lab, the Virginia Department of Fire Programs, Hanover's Sheriff's Office, the Virginia Department of Health and the Federal Bureau of Investigation. Law enforcement and fire/ems officials were taught how foodborne outbreaks serve as a model for how public health teams conduct field investigations. Public health officials were given a chance to hear first hand accounts on the anthrax and "white powder" calls of 2001 were handled. All participants were given cases studies and an opportunity to discuss best practices for future responses. Special Supervisory Agent Barbara Martinez of the FBI gave an overview of the 2001 anthrax attacks and discussed lessons learned from the investigations. Ms. Martinez stressed the importance of joint investigations between law enforcement and public health.

"This was a great opportunity for our emergency service partners, the Rappahannock Medical Reserve Corp and the health department to network."
- Joe Saitta, Bioterrorism Coordinator

Varicella is reportable!!

In the last ten years the epidemiology of varicella has changed dramatically. Based on year 2002 National Immunization Survey data, 83.0% of all Virginia children 19-35 months of age received a dose of varicella vaccine. National coverage rates were 80.6% for the same age cohort. There has been an obvious decrease in the number of cases of varicella disease in all age groups, even among those not receiving the vaccine. At the same time however, some cases of varicella are still being seen among vaccinated populations. The true impact of vaccination efforts has been hard to assess nationally due to the absence of national surveillance data. For these reasons, the Centers for Disease Control and Prevention (CDC) have recommended that varicella be reportable with a requirement for implementation by 2005.

Virginia is in a good position to successfully meet this requirement. All susceptible children born on or after January 1, 1997 must be vaccinated in order to enter school and day care. In addition, varicella is already a reportable disease in Virginia. However, many physicians and health departments have not considered timely case reporting of varicella a priority.

Overall it appears that varicella vaccine is highly protective in preventing severe disease and moderately effective in preventing all disease. However, two recent journal articles have suggested that a younger age at the time of vaccination (vaccination at <15 months) may increase the risk of breakthrough illness.[1,2] Breakthrough infection (*i.e.*, developed varicella more than 42 days after immunization) is significantly milder, with fewer lesions (generally less than 50), many of which are maculopapular rather than vesicular. Most individuals with breakthrough infection do not have fever. Breakthrough varicella infection could be influenced by several other factors as well. They include interference of vaccine virus replication by circulation antibody, impotent vaccine due to storage or handling errors, inaccurate record keeping, and interference from another live viral vaccine administered up to 28 days before varicella vaccine. A possible change in timing or a routine two-dose schedule may decrease the rate of breakthrough disease.

All cases of varicella must be reported to the state health department, not just cases of varicella among vaccine recipients. Individuals required to report varicella include:

- Physicians
- Persons in charge of medical care facilities
- Nursing homes
- Adult care residents and correctional facilities
- School/child care centers are required to report the presence of children having common symptoms suggestive of an epidemic or outbreak.

[1] Galil K,Fair E, Mountcastle N, Brits P, Seward J. Younger age at vaccination may increase risk of varicella vaccine failure. *J Infect Dis.* 2002; 186:102-105.
[2] Vázquez M, LaRussa P, Gershon A, et al. Effectiveness over time of varicella vaccine. *JAMA. 2004; 291:851-855.*

Community Associated MRSA (CA-MRSA) - Diagnosis and Treatment

Methicillin-resistant *Staphylococcus aureus* (MRSA) is emerging as a community-associated infection among persons in competitive sports and in other physical contact arenas that increase the risk of skin damage and or irritation.

CA- MRSA has been associated with recent antibiotic use, sharing contaminated items, having recurrent skin diseases, and living in crowded settings. Clusters of skin infections caused by MRSA have been described among injecting drug-users; incarcerated persons; players of close-contact sports; men who have sex with men. Most of the transmission in these settings appeared to be from people with active MRSA skin infections. Some strains of CA-MRSA may have a gene which allows it to be more aggressive than the average staph infection. This "Leukociden Gene" may also allow the bacterium to invade intact skin and account for its ability to infect healthy skin as opposed to Hospital Acquired MRSA (HA-MRSA). Hand washing, personal hygiene, prohibiting the sharing of personal items and proper wound management are key to preventing the spread of MRSA.

Mode of Transmission

MRSA is almost always spread by direct physical contact and not through the air. Spread may also occur through indirect contact by touching objects (e.g., towels, sheets, wound dressings, clothes, workout areas, or sports equipment) contaminated by the infected skin of an infected person. Any activity that promotes breakdown in skin integrity (e.g., chronic skin infections, physical trauma, poor health) can promote staph skin infections including those caused by MRSA. Just as *S. aureus* can be carried on the skin or in the nose without causing any disease, MRSA can be carried in this way also.

Prevent spreading an MRSA infection

Keep infections, particularly those that continue to produce pus or to drain material, covered with clean, dry bandages. Pus from infected wounds can contain MRSA and spread the bacteria to others.

- Advise your patient and close contacts to wash their hands frequently with soap and warm water, especially if they change bandages or touch the infected wound or potentially infectious materials.
- Avoid sharing personal items (e.g., towels, washcloth, razor, clothing, or uniforms) that may have had contact with the infected wound and potentially infectious material.
- Wash linens and clothes that become soiled with hot water and laundry detergent. Drying clothes in a hot dryer, rather than air-drying, also helps kill bacteria in clothes.

Diagnosis

Infection with MRSA should be suspected in boils, folliculitis, cellulitis and other soft tissue infections that are nonresponsive to standard antibiotic therapy, recurrent or persistent cases and in cases that present with advanced or aggressive infections. MRSA infections are not clinically distinguishable from other staph infections that are sensitive to beta-lactam antibiotics. Therefore, cultures should be obtained and evaluated for sensitivity when MRSA is suspected. Clinicians should consider obtaining a culture of wound drainage in all cases of abcesses as the background rate of MRSA in the community is not known.

Treatment

- Skin and soft tissues infections suggestive of staph infections that cannot be cultured or have nondiagnostic culture results should be treated on a case by case basis.
- The first line of treatment for soft tissue infections is incision, drainage, and localized care.
- Clinicians should consider that infections may be **resistant to penicillins, ampicillin/clavulanic acid (Augmentin), ampicillin sulbactam (Unasyn) and cephalosporins**, and therefore consider performing a wound culture in suspected patients.
- Clinicians should consider performing a culture and changing antibiotics to those active against MRSA (listed below) for patients whose wounds do not appear to be resolving despite antibiotic therapy with usual first line medications.
- If MRSA is suspected, trimethoprim/sulfamethoxazole double strength (Septra DS) or doxycycline twice a day for 10 to 14 days are reasonable options.
- For more serious infections such as infected wounds and drained abscesses or those that are not responding to treatment, further treatment should be guided by culture and sensitivity testing.
- Critically ill patients suspected of MRSA should be treated with vancomycin, plus clindamycin or doxycycline IV.

Report any clusters of staph skin infections and MRSA outbreaks to the health department @ 540-899-4797 x 103.

Got Flu? Take these steps to protect others:

- Do not come to work while ill. Stay home from work or school for 5-7 days if you have flu like symptoms.
- Do not send children to school or day care if ill.
- Have tissues, hand gels, and masks available in waiting areas and around the office.
- Practice proper respiratory etiquette. Use a tissue to cover your nose and mouth when coughing or sneezing; dispose of the tissue immediately and wash hands thoroughly for at least 20 seconds.
- Post signs on long term care facility doors instructing persons who are ill not to visit nursing homes or assisted living facilities.

Donald Stern, MD, MPH — Director of Public Health
Leah Halfon, MPH — District Epidemiologist
Joe Saitta, Ed.D — Emergency Planner
Kay Jones, RNC, MBA — Nurse Manager

Rappahannock Area Health District
608 Jackson Street
Fredericksburg, VA 22401
Phone: 540-899-4797
Fax: 540-899-4599

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Please visit us on the web @
www.vdh.virginia.gov

Selected Reportable Diseases in RAHD - January - September 2004 vs 2003*

DISEASE	YTD	YTD	Diff	% change	YTD State
AIDS	18	19	-1	-5.3%	609
Campylobacter	17	23	-6	-26.1%	651
Chickenpox	4	9	-5	-55.6%	-
Chlamydia Trachomatis	461	422	39	9.2%	14585
Ehrlichiosis	1	1	0	0.0%	-
E. Coli (0157:H7)	0	1	-1	-100.0%	32
Gonorrhea	142	119	23	19.3%	6775
HAEMOPHILUS INFLUENZAE, INVASIVE	1	2	-1	-50.0%	-
HIV Infection	14	18	-4	-22.2%	606
HEPATITIS A IgM	3	2	1	50.0%	69
Lead - elevated blood levels	6	14	-8	-57.1%	563
Legionelliosis	3	4	-1	-25.0%	-
Lyme Disease	15	14	1	7.1%	-
MENINGOCOCCAL INFECTION	0	0	0	-	21
PERTUSSIS	1	2	-1	-50.0%	83
RUBELLA	1	0	1	-	-
Rocky Mountain Spotted Fever	4	8	-4	-50.0%	-
Salmonellosis	33	38	-5	-13.2%	789
Shigellosis	3	4	-1	-25.0%	318
Streptococcal Disease, Group A, invasive	2	13	-11	-84.6%	-
Streptococcus pneumoniae, invasive <5 yrs	13	2	11	550.0%	-
Syphilis (primary,secondary and early latent)	4	3	1	33.3%	128
Tuberculosis (Mycobacteria)	6	2	4	200.0%	187
Typhus	1	0	1	-	-
Total	753	720	33	4.6%	

± Data is preliminary
The State of Virginia reported 1 confirmed WNV case in 2004 compared to 3 in 2003, and 9 in 2002.